

PROCEDURAL MANUAL #77-1:
WETLAND PROTECTION

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PROCEDURAL MANUAL #77-1: WETLAND PROTECTION

1.0 Introduction

This procedural manual was developed for use by the National Park Service (NPS) in carrying out its responsibilities under Executive Order (E.O.) 11990 to protect wetlands. This manual contains two main elements: 1) the text of Director's Order #77-1 (in Section 2); and 2) more detailed procedures (in Sections 3-5) by which the NPS will implement Director's Order #77-1. Together they replace the wetland protection portions of the 1980 "NPS Floodplain Management and Wetland Protection Guidelines" (45 Fed. Reg. 35916, minor revisions in 47 Fed. Reg. 36718), which are now rescinded. Four years after the issue date of Director's Order #77-1, it will be reviewed, revised if necessary, and reissued. These implementation procedures will also be revised and reissued at that time, if necessary.

2.0 Director's Order #77-1: Wetland Protection

[NOTE: Director's Order #77-1 is incorporated in its entirety into this section of the procedural manual. It is one of a series of Director's Orders pertaining to natural resources and science. Director's Order #77-1 establishes the policies, requirements, and standards under which the NPS will meet its responsibilities to protect and preserve wetlands. Among other things, the Director's Order requires the Associate Director, Natural Resource Stewardship and Science, to develop and issue this procedural manual.]

The wetland protection provisions of the 1980 "NPS Floodplain Management and Wetland Protection Guidelines" (45 Fed. Reg. 35916, minor revisions in 47 Fed. Reg. 36718), and any other conflicting instructions or delegations of authority, are superseded and replaced by this Director's Order and by Procedural Manual #77-1, issued by the Associate Director, Natural Resource Stewardship and Science.

2.1 Background and Purpose of this Director's Order

The purpose of this Director's Order is to establish National Park Service (NPS) policies, requirements, and standards for implementing Executive Order (E.O.) 11990: "Protection of Wetlands" (42 Fed. Reg. 26961). E.O. 11990 was issued by the President "...to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative...."

In addition to E.O. 11990, two other wetland-related initiatives are recognized and incorporated into this Director's Order:

- a. On August 24, 1993, the White House Office on Environmental Policy issued a paper titled "Protecting America's Wetlands: A Fair, Flexible, and Effective Approach." In its "Five

Principles for Federal Wetlands Policy," the paper outlined the Administration's support of an interim goal of no overall net loss of the nation's remaining wetlands, and a long-term goal of increasing the quality and quantity of the nation's wetland resource base.

- b. On December 17, 1996, the Secretary of the Interior formally adopted the U.S. Fish and Wildlife Service wetland classification system "Classification of Wetlands and Deepwater Habitats of the United States" (FWS/OBS-79/31; Cowardin et al. 1979) as a departmental standard for classifying and inventorying wetlands.

Section 6 of E.O. 11990 directs federal agencies to issue procedures to comply with the Executive Order. NPS procedures were originally adopted together with procedures to comply with E.O. 11988 (Floodplain Management) in the 1980 "NPS Floodplain Management and Wetland Protection Guidelines" (45 Fed. Reg. 35916, minor revisions in 47 Fed. Reg. 36718). Experience with implementing the wetland provisions of those guidelines and changes in wetland management concepts since they were first published have necessitated updating, streamlining, and clarifying NPS wetland policies, requirements, and standards.

2.2 Policies, Requirements, and Standards

Executive Order 11990 directs the NPS: 1) to provide leadership and to take action to minimize the destruction, loss, or degradation of wetlands; 2) to preserve and enhance the natural and beneficial values of wetlands; and 3) to avoid direct or indirect support of new construction in wetlands unless there are no practicable alternatives to such construction and the proposed action includes all practicable measures to minimize harm to wetlands.

In carrying out the NPS's responsibilities related to:

- acquiring, managing, and disposing of NPS lands and facilities;
- construction and related development activities;
- permitting activities as provided for under NPS regulatory authorities; and
- conducting activities, programs, or planning efforts affecting use of NPS lands,

in a manner consistent with E.O. 11990 and with the "no net loss of wetlands" goal, the NPS will take the following actions:

- A. The NPS adopts a goal of "no net loss of wetlands." In addition, the NPS will strive to achieve a longer-term goal of net gain of wetlands Servicewide.
- B. NPS units will conduct parkwide wetland inventories (or will obtain such inventories from appropriate sources such as the National Wetlands Inventory) to help assure proper planning with respect to management and protection of wetland resources. Additional large-scale (more detailed) wetland inventories will be conducted in areas that are proposed for development or are otherwise susceptible to degradation or loss due to human activities.

- C. For purposes of compliance with Executive Order 11990, the NPS will use “Classification of Wetlands and Deepwater Habitats of the United States” (FWS/OBS-79/31; Cowardin et al. 1979) as the standard for defining, classifying, and inventorying wetlands.
- D. For proposed new development or other new activities, plans, or programs that are either located in or otherwise have the potential for direct or indirect adverse impacts on wetlands, the NPS will employ a sequence of:
 - 1. avoiding adverse wetland impacts to the extent practicable,
 - 2. minimizing impacts that could not be avoided, and
 - 3. compensating for remaining unavoidable adverse wetland impacts via restoration of degraded wetlands.

Consistent with paragraph A. above, compensation for wetland degradation or loss will be at a minimum 1:1 ratio. Actions that may be excepted from the compensation requirement will be identified under procedures developed by the Associate Director, Natural Resource Stewardship and Science to implement this Director’s Order.

- E. Actions proposed by the NPS that have the potential to have adverse impacts on wetlands will be addressed in an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). If the preferred alternative in an EA or EIS will result in adverse impacts on wetlands, a “Statement of Findings” documenting compliance with this Director’s Order and its implementation procedures will be completed. Actions that may be excepted from the Statement of Findings requirement will be identified in those procedures.
- F. Superintendents will oversee preparation of Statements of Findings and will recommend their approval to Regional Directors. The Chief of the NPS Water Resources Division or, alternatively, a certified Professional Wetland Scientist (Society of Wetland Scientists Certification Program, Inc.) from within the NPS with working knowledge of this Director’s Order and its implementation procedures, will certify: 1) the adequacy of wetland-related technical analyses; and 2) consistency with Servicewide implementation of this Director’s Order and accompanying procedures. Regional Directors have final approval authority for Statements of Findings.
- G. Where natural wetland characteristics or functions have been degraded or lost due to previous or ongoing human activities, the NPS will, to the extent appropriate and practicable, restore them to pre-disturbance conditions.
- H. Where appropriate and practicable, the NPS will not simply protect, but will seek to enhance natural wetland values by using them for educational, recreational, scientific, and similar purposes that do not disrupt natural wetland functions.
- I. The Associate Director, Natural Resource Stewardship and Science, will develop and issue procedures for implementing the policies, standards, and requirements of this Director’s Order.

2.3 Responsibilities

The Director is responsible for ensuring NPS compliance with E.O. 11990 in accordance with provisions of 520 DM 1. In performing this duty, the Director approves NPS policies and directives for complying with the Executive Order.

The Deputy Directors and Associate Directors are responsible for general supervision of the Divisions and Offices under their jurisdictions to ensure compliance with E.O. 11990 as outlined in Director's Order #77-1 and these procedures.

The Associate Director, Natural Resource Stewardship and Science is responsible for: 1) issuing NPS procedures for implementing Director's Order #77-1; and 2) revising relevant portions of the NPS *Management Policies* (1988) and NPS natural resources management and NEPA procedures to ensure compliance with E.O. 11990 as outlined in Director's Order #77-1 and these procedures.

The Associate Director, Professional Services is responsible for revising NPS planning procedures as necessary to satisfy the requirements of E.O. 11990 as outlined in Director's Order #77-1 and these procedures.

The Superintendents oversee the planning/NEPA process, identify preferred alternatives, and oversee preparation of Statements of Findings as outlined in these procedures, utilizing the wetland technical information developed during the planning process. Superintendents sign the "Recommended" line on Statement of Findings cover sheets.

The Chief, Water Resources Division (or a certified Professional Wetland Scientist from within the NPS as described in Section 5.3.E of these procedures) signs the "Certification of Technical Adequacy and Servicewide Consistency" line on Statement of Findings cover sheets, assuring both technical adequacy of wetland analyses and Servicewide consistency in implementation of Director's Order #77-1 as outlined in these procedures.

The Regional Directors are responsible for ensuring compliance with E.O. 11990 within their respective Regions as outlined in Director's Order #77-1 and these procedures. They are responsible for final approval of Statements of Findings after recommendation by Superintendents and certification of technical adequacy and Servicewide consistency as described in Section 5.3.E of these procedures.

(End of Director's Order #77-1)

3.0 Relationships to Other Requirements

3.1 Relationships to Department of the Interior Procedures and the National Environmental Policy Act

E.O. 11990 was issued "in furtherance of the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 *et seq.*), in order to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands." The policies, requirements, and standards in Director's Order #77-1, as implemented under these procedures, supplement and must be used in conjunction with the Department of the Interior procedures and policies for implementing E.O. 11990 (520 DM 1); the Council on Environmental Quality (CEQ) Implementing Regulations for NEPA (40 CFR Part 1500); the Department of the Interior policies and procedures for complying with NEPA (516 DM 1-7); and NPS NEPA Director's Orders and implementation procedures.

The Departmental Manual lists NEPA categorical exclusions in 516 DM 2, Appendix 1 and 516 DM 6, Appendix 7. However, 516 DM 2, Appendix 2 notes that **a proposed action cannot be categorically excluded if it has the potential to cause adverse impacts on wetlands.** Sections 4.1, 5.3.B, and 5.3.C of these procedures provide guidance for determining if an action has the potential to have adverse impacts on wetlands. If the action is found to have such potential, then it cannot be categorically excluded. In most such cases, the supplemental NEPA requirements in Section 5.3 of these procedures are required. However, some requirements may be waived for "excepted actions" as described in Section 4.2.

3.2 Relationship to Compliance with Section 404 of the Clean Water Act

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers issues permits for activities that result in the discharge of dredged or fill material into waters of the United States, including wetlands. Regulated activities range from depositing fill for building pads or roads to discharges associated with mechanized landclearing.

Although portions of the Corps of Engineers 404 permit procedures (33 CFR 320-330) are similar to some of the requirements found in Director's Order #77-1 and these implementing procedures, there are significant differences in scope that warrant a separate NPS wetland protection process. First, the 404 permit program regulates only the discharge of dredged or fill material, while Executive Order 11990 covers a much broader range of actions that can have adverse impacts on wetlands, including ground water withdrawals, water diversions, nutrient enrichment, and other examples listed in Section 4.1.B of these procedures. Second, the wetland definition used for the 404 permit program (33 CFR 328.3) is narrower than the Cowardin et al. (1979) wetland definition used for NPS compliance with E.O. 11990 (see Section 4.1.A of these procedures). Therefore, a broader range of aquatic habitat types fall under these procedures than under the wetland procedures of the 404 permit program. Third, the Corps of Engineers has "general permit" provisions that allow many projects affecting wetlands to proceed with minimal review. Thus, in many cases, the 404 permit program does not meet the wetland protection directives of E.O. 11990 for national park resources.

For these reasons, **all NPS actions with the potential to have adverse impacts on wetlands (as defined by Cowardin et al., 1979) must comply with Director's Order #77-1 and these procedures, and those actions that involve placing dredged or fill material in wetlands or other “waters of the U.S.” (as defined in 33 CFR 320-330) must comply with Section 404 of the Clean Water Act as well.** In cases where both NPS and Corps of Engineers procedures apply, it is important to avoid duplication of effort by coordinating with the appropriate Corps of Engineers office early in the process of developing alternatives to assure that they are workable under both these procedures and Section 404 regulations. Also, if wetland compensation is necessary (Section 5.2.C of these procedures), **every effort should be made to assure that the same wetland restoration proposal meets the compensation requirements of both processes.** If, despite previous coordination, the Corps of Engineers requires changes in project design, location, or permit conditions after NPS NEPA documents (including the Statement of Findings discussed in Sections 5.3.D and 5.3.E of these procedures) are final, it may be necessary to amend the NPS documents to reflect these changes.

3.3 Relationship to Executive Order 11988 (Floodplain Management)

Executive Order 11988 (Floodplain Management) directs federal agencies to avoid adverse impacts upon floodplains and their occupants if there is a practicable alternative. The NPS is further directed to take action to reduce the risk of flood loss, to minimize impacts of flooding on human safety, health, and welfare, and to restore and preserve the natural and beneficial values of floodplains.

The NPS Floodplain Management Guideline (Special Directive 93-4, or its successor Director's Order) outlines NPS procedures for implementing E.O. 11988. This guideline requires that a Statement of Findings documenting consistency with E.O. 11988 be prepared for proposed activities that would result in occupation or modification of floodplains or that would result in impacts to floodplain values. Since wetlands are often located within floodplains, such proposed activities may require compliance with both E.O. 11988 and E.O. 11990. In such cases, **the floodplain Statement of Findings discussed in Section VII of the NPS Floodplain Management Guideline and the wetland Statement of Findings discussed in Director's Order #77-1 and Sections 5.3.D and 5.3.E of these procedures may be combined into one Statement of Findings** as long as the requirements for both documents, including all specified signatures, are met.

3.4 Compliance with Other Federal Laws and Regulations

In addition to the above, the NPS must also assure compliance with: 1) the Coastal Zone Management Act, which requires that NPS actions be consistent, to the maximum extent practicable, with approved state coastal zone management programs; 2) Section 10 of the Rivers and Harbors Act, which requires Department of the Army permits for work in navigable waters; 3) the Fish and Wildlife Coordination Act; 4) the Wild and Scenic Rivers Act; 5) the Endangered Species Act; 6) the National Historic Preservation Act; and other relevant laws and regulations governing actions in wetlands and other aquatic environments.

4.0 Scope

4.1 Applicability

A. Wetlands Subject to Executive Order 11990

For the purpose of implementing E.O. 11990, any area that is classified as wetland habitat according to the U.S. Fish and Wildlife Service's "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et al. 1979) is subject to Director's Order #77-1 and these implementation procedures. (Note: This classification system forms the basis for the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) mapping program. Section 5.1 of these procedures discusses the applicability of NWI maps to compliance with E.O. 11990.)

For the Cowardin classification system, a wetland must have one or more of the following attributes:

1. at least periodically, the land supports predominantly hydrophytes (wetland vegetation);
2. the substrate is predominantly undrained hydric soil; or
3. the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

These three attributes encompass wetland areas that fall into five categories:

1. areas with hydrophytes and hydric soils, such as those commonly known as marshes, swamps, and bogs;
2. areas without hydrophytes but with hydric soils - for example, flats where drastic fluctuations in water level, wave action, turbidity, or high concentration of salts may prevent the growth of hydrophytes;
3. areas with hydrophytes but non-hydric soils, such as margins of impoundments or excavations where hydrophytes have become established but hydric soils have not yet developed;
4. areas without soils but with hydrophytes such as the seaweed-covered portion of rocky shores; and
5. wetlands without soil and without hydrophytes, such as gravel beaches or rocky shores without vegetation.

It should be noted that the Cowardin definition includes more habitat types than the wetland definition (33 CFR 328.3) and delineation manual used by the Corps of Engineers for identifying wetlands subject to Section 404 of the Clean Water Act. The 1987 "Corps of Engineers Wetlands Delineation Manual" requires that **all three** of the parameters listed above (hydrophytic vegetation, hydric soil, wetland hydrology) be present in order for a habitat to be considered a wetland (with some exceptions for "atypical situations" and "problem areas"). The Cowardin wetland definition includes such wetlands, but also adds some habitats that, though lacking vegetation or soils, are still saturated or shallow inundated environments that support aquatic life (e.g., unvegetated stream shallows, mudflats, rocky shores). Most of these additional aquatic environments are still regulated under the 404 permit program, but not under the more restrictive wetland provisions. The NPS

Water Resources Division can provide up-to-date information on the appropriate manuals and methods used in identifying wetlands for either purpose.

B. Activities Subject to Executive Order 11990

NPS activities that have the potential to have adverse impacts on wetlands are subject to the provisions of E.O. 11990 as implemented through Director's Order #77-1 and these procedures. Such activities may include: 1) acquiring, managing, and disposing of NPS lands and facilities; 2) construction and related development activities; 3) permitting activities as provided for under NPS regulatory authorities; and 4) activities, programs, or planning efforts affecting use of NPS lands.

NPS activities with the potential to have adverse impacts on wetlands must follow the procedures in Sections 5.2, 5.3, and 5.4 of this document (unless such procedures may be waived under Section 4.2 "Excepted Actions"). The basic test for determining if a proposed action will have adverse impacts on wetlands is if the activity has the potential to degrade any of the natural and beneficial ecological, social/cultural, and other functions and values of wetlands (see Sections 5.3.B and 5.3.C of these procedures regarding evaluating adverse impacts). Such activities may require compliance due to direct impacts (e.g., location of a structure on fill in a wetland) or due to indirect impacts (e.g., secondary or offsite impacts that reach into wetlands). Examples of activities with the potential to have adverse impacts on wetlands include drainage, water diversion, pumping, flooding, dredging, channelizing, filling, nutrient enrichment, diking, impounding, placing of structures or other facilities, livestock grazing, and other activities that degrade natural wetland processes, functions, or values.

Examples of wetland degradation include modifying flow, circulation, hydroperiod, or other aspects of the hydrologic regime; degrading natural biotic communities and processes including native plant and animal communities, habitat quality, floral and faunal productivity, and natural biodiversity; and degrading social/cultural values such as aesthetics, education, historical values, archeological resources, recreation, and scientific research (see Section 5.3.C of these procedures).

Section 5.1 (Wetland Inventories), Section 5.5 (Restoring Wetlands Degraded by Human Activities), Section 5.6 (Retaining or Removing Structures and Facilities in Existence Prior to May 28, 1980), and Section 5.10 (Leases, Easements, Rights-of-Way, or Disposal of Wetlands on NPS Lands) address procedures applicable to wetland inventories and land use decisions that are not necessarily associated with "new impacts" on wetlands.

C. Land Acquisition for Administrative Purposes

Land acquisition **primarily for administrative purposes** (e.g., future development of housing, administrative facilities, transportation systems, etc.) is subject to the policies and requirements of Director's Order #77-1 and these procedures if there is a potential for adverse impacts on wetlands. Requirements to avoid or minimize wetland impacts described in Section 5.2 must be addressed in the land acquisition (for administrative purposes) planning process. The Statement of Findings (Sections 5.3.D and 5.3.E) for the acquisition process should focus on justifying why no sites with

fewer potential wetland impacts were practicable; however, the wetland compensation requirement (Section 5.2.C) may be delayed until the NEPA compliance documents for the actual facility plans are prepared. If compensation is delayed in this manner, an amended Statement of Findings must be prepared and issued for the specific development plan according to the procedures in Sections 5.3.D and 5.3.E. This amendment can tier off the acquisition Statement of Findings as much as possible, but must address the specifics of minimizing wetland impacts and required wetland compensation (Section 5.2.C).

4.2 Excepted Actions

This subsection identifies certain types of activities that require modified approaches to achieve the objectives of E.O. 11990 while reducing delay and paperwork. "Excepted actions" described in this subsection are those actions that may be excepted from the Statement of Findings requirements described in Sections 5.3.D and 5.3.E and the compensation requirements discussed in Section 5.2.C of these procedures. **If actions are "excepted" from these two requirements under this subsection, requirements to avoid wetlands and minimize unavoidable wetland impacts, to the extent practicable (Sections 5.2.A and 5.2.B), still apply and should be discussed in the appropriate NEPA document.**

Exceptions described in the following subsections do not imply exemption from the Clean Water Act (including Section 404 permits for discharge of dredged or fill material in waters of the U.S.), Section 10 of the Rivers and Harbors Act (Corps of Engineers permits for projects in navigable waters), the Endangered Species Act, or other laws, regulations or procedures governing NPS activities.

A. Exceptions for "Water Dependent" Actions or Other Actions with "Minimal Impacts"

1. Certain types of actions cannot accomplish their intended purposes unless they are located in or are carried out in close proximity to wetlands (i.e., they are "water dependent"). Several other types of actions are not water dependent but, in general, are considered to have minimal impacts on wetlands. Following is a list of such actions that **may be excepted** from the Statement of Findings procedures outlined in Sections 5.3.D and 5.3.E and the compensation requirement discussed in Section 5.2.C of these procedures. For a listed action to be excepted from these requirements, the **conditions** referred to in Section 4.2.A.2 below and listed in Appendix 2 of these procedures must be satisfied. If one or more of these conditions cannot be met, or the action is otherwise judged to have more than "minimal impacts," then the action reverts to full compliance with Director's Order #77-1 and these procedures. (The NPS Water Resources Division is available for consultation to help determine if an action should be excepted.)

Actions that **may** be excepted from the Statement of Findings (Sections 5.3.D and 5.3.E) and compensation (Section 5.2.C) requirements:

- a. Scenic overlooks and foot/bike trails or boardwalks, including signs, **the primary purposes of which are public education, interpretation, or enjoyment of wetland**

resources. (Parking lots, access roads, and other associated facilities can not be excepted.)

- b. Small boat ramps/launches, piers, or docks with total wetland impact (both onsite and offsite) of 0.1 acre or less.
- c. Use and maintenance of unimproved backcountry vehicle stream **crossings** (use of stream channels as road **corridors** can not be excepted).
- d. **Minor** stream crossings using culverts or bridges that completely span the channel and associated wetland habitat (i.e., no pilings, fill, or other support structures in the wetland/stream habitat).
- e. Actions designed specifically for the purpose of **restoring** degraded (or completely lost) natural wetland, stream, riparian, or other aquatic habitats or ecological processes. For purposes of this exception, "restoration" refers to reestablishing environments in which natural ecological processes can, to the extent practicable, function at the site as they did prior to disturbance. Temporary wetland disturbances that are directly associated with and necessary for implementing the restoration are allowed under this exception (see "conditions" in Section 4.2.A.2). Actions causing a cumulative total of up to 0.25 acres of new long-term adverse impacts on natural wetlands may be allowed under this exception if they are directly associated with and necessary for the restoration (e.g., small structures or berms). Note: Some "artificial wetlands" (see definition in Section 4.2.B below) may have been constructed on sites which were originally 100% upland habitat (e.g., wetlands sustained via water pumps or other means). Restoration of such sites to upland habitat may also be considered under this exception.
- f. Maintenance, repair, or renovation (but not full reconstruction or expansion) of currently serviceable facilities or structures:
 - that were under construction or were completed **prior to** May 28, 1980 (date the original "NPS Floodplain Management and Wetland Protection Guidelines" were published) but whose retention has been reviewed and justified according to Section 5.6 of these procedures, or
 - that were completed **after** publication of the May 28, 1980 guidelines (or subsequent revisions, including these procedures) and for which compliance with them is on record.

This exception allows for **minor** (total of 0.1 acre or less) deviations in the structure's configuration or fill footprint due to subsequent changes in construction codes or safety standards (e.g., handicap accessibility), but does not apply to other types of reconstruction/expansion (e.g., road widening or re-routing) or conversion to other uses that would have additional adverse impacts on wetlands.

- g. Scientific measuring devices such as water level recorders, water quality monitoring stations, small weirs or flumes, or similar devices necessary for monitoring of or research on wetland resources.

2. **Conditions** That Must be Satisfied to Qualify for "Water Dependent" or "Minimal Impact" Exceptions (see Appendix 2)

Appendix 2 presents a set of conditions that must be satisfied for a proposed action to qualify for the exceptions in this subsection. If one or more of the relevant conditions cannot be met, then the action reverts to full compliance with these procedures.

B. Activities with Adverse Impacts on "Artificial" Wetlands

"Artificial" wetlands are those that have been created on previously dry land (upland) as a result of human activities. Such wetlands may be **incidental** (e.g., formed due to leakage from irrigation systems or in artificial impoundments created by inadequate road drainage) or may be **intentional** (e.g., associated with constructed ponds or reservoirs). For this subsection, constructed "ponds" and other small intentional artificial wetlands are defined as less than five acres in size, while larger intentional artificial wetlands or "reservoirs" are five acres or larger.

Proposed actions in **incidental** wetlands or small **intentional** wetlands can have significant adverse impacts on NPS resources and purposes even though the habitats are artificial. Decisions on these actions must include consideration of the potential loss of aquatic resource functions and values, including those described in Section 5.3.C of these procedures. These decisions must also take into account NPS management policies allowing preservation of such resources under a number of special circumstances, including:

1. when needed to "maintain the closest approximation of the natural ecosystem where a truly natural ecosystem is no longer attainable" (NPS *Management Policies* (1988); Chapter 4:2),
2. for the benefit of threatened or endangered species (Chapter 4:8),
3. for cultural resources management purposes (Chapter 5), or
4. when directed by Congress.

Proposed actions in incidental artificial wetlands or small intentional artificial wetlands are subject to NPS NEPA compliance procedures. However, actions impacting these types of artificial wetlands **may be excepted** from the Statement of Findings requirements of Sections 5.3.D and 5.3.E and the compensation requirements of Section 5.2.C of these procedures if, after evaluation of impacts on wetland functions and values, the anticipated wetland loss or degradation is determined to be minimal (including no adverse impacts on state or federally listed or candidate species or their critical habitats). The NPS Water Resources Division is available for consultation to help determine if an action should be excepted. **Note: This NPS exception does not imply exception from**

compliance with Section 404 of the Clean Water Act (which does regulate many artificial wetlands) or any other relevant laws, regulations, or procedures.

Construction, deposition of fill material, and other activities with adverse impacts on larger intentional wetlands/reservoirs are also subject to NPS NEPA compliance procedures and must comply fully with Director's Order #77-1 and these procedures (though other exceptions in Section 4.2 may apply).

Artificial ponds, channels, or similar features that are used for the sole purpose of active stormwater, wastewater, or drinking water treatment are not considered wetlands for purposes of these procedures. However, if such systems retain wetland characteristics as defined in Section 4.1.A of these procedures after they have been abandoned, they revert to the procedures for artificial wetlands discussed previously in this Section.

C. Emergency Actions

When the NPS performs emergency actions essential to protect property and public health and safety from an immediate threat, a modified procedure for compliance with Director's Order #77-1 and these procedures is required. Taking into consideration the need for rapid action in emergency situations, practicable steps to avoid and minimize potential adverse impacts on wetlands must be taken. However, the other procedures outlined in this document for compliance with Director's Order # 77-1 are not required prior to implementing emergency actions.

After such emergency actions have been completed, practicable restoration actions for wetlands damaged by the emergency action should be implemented as soon as possible. During the next revision of the park General Management Plan, Resource Management Plan, or other relevant park planning document, actions that would lessen the frequency of such emergencies or eliminate them entirely must be evaluated and implemented, where practicable.

Note: This exception does not imply exception from the requirements of Section 404 of the Clean Water Act. In order to allow emergency work without delays, each NPS unit should contact the local Corps of Engineers District Office regarding emergency authorization procedures.

5.0 Procedures

Director's Order #77-1 (Section 2 of these procedures) states the NPS goal to achieve "no net loss of wetlands" in the course of managing NPS resources and developing park management and visitor use facilities and programs. In addition, the Director's Order establishes a longer-term goal to achieve "net gain" of wetland habitat through efforts to restore natural wetlands that have been degraded or lost due to past human activities. These and related policies established in Director's Order #77-1 will be met through the following procedures.

5.1 Wetland Inventories

For General Management Plans and similar general planning efforts, NPS units should obtain parkwide wetland inventories based on the U.S. Fish and Wildlife Service (USFWS) wetland classification system ("Classification of Wetlands and Deepwater Habitats of the United States;" FWS/OBS-79/31; Cowardin et al. 1979). Where available, USFWS National Wetlands Inventory (NWI) maps meeting current standards (i.e., based on 1:58,000 scale color infrared aerial photography for most of the country, somewhat smaller scale in Alaska) can be considered as the "base wetland inventory" for meeting this need, and should be obtained by NPS units. (NWI maps based on black-and-white and/or smaller scale photography can be used in the absence of better products, but should be considered substandard.) Because of limitations in boundary resolution, minimum detectable wetland size, and errors inherent in aerial photo interpretation of natural systems, NWI maps should be considered as initial tools for avoiding wetland impacts in park planning. Field verifications will be necessary for more detailed planning as explained below.

If it is determined that the NWI maps are not adequate for general park planning or wetland management purposes, more detailed "enhanced inventories" employing larger scale imagery and/or more extensive ground truthing may be necessary. As part of the enhanced wetland inventory process, observable degradation of NPS-managed wetlands and the likely causes (e.g., drainage, filling, mining, nutrient enrichment) should be recorded for use in resource protection and wetland restoration planning. **Enhanced inventories should either use the Cowardin et al. (1979) classification system or be cross-referenced to that system.**

Regardless of the type of wetland inventory data used in the general park planning process, onsite evaluations must be conducted as part of the more detailed project planning process (e.g., during preparation of Development Concept Plans or other plans identifying specific development sites) in order to locate any unmapped wetlands, to determine wetland boundaries more accurately, and to otherwise assure that projects will not degrade wetlands (see Section 5.3.B). **It is critical that this onsite investigation be conducted well in advance of the project design phase to assure that the avoidance and minimization requirements outlined in Section 5.2 of these procedures can be met.**

5.2 Sequence of Avoiding, Minimizing, and Compensating for Wetland Impacts

For proposed development or other activities either located in or otherwise with the potential to have **adverse impacts on wetlands** (as defined in Sections 4.1.B and 5.3.B of these procedures), the NPS is required to use the following **sequence** of avoiding, minimizing, and compensating for wetland impacts:

A. Avoiding Adverse Impacts on Wetlands

In the course of developing project alternatives and implementing actions, the NPS must seek to **avoid** direct or indirect adverse impacts on wetlands and avoid support of activities that would result in such impacts, **wherever practicable**. (See Section 5.3.A.2 of these procedures for examples of factors to be considered in determining if an alternative is "practicable.")

B. Minimizing Unavoidable Wetland Impacts

Where no alternatives that avoid adverse impacts on wetlands are found to be practicable, the NPS must **minimize** wetland impacts, to the extent practicable, by first designing or modifying actions or facilities so as to minimize wetland degradation or loss, and then by using Best Management Practices (BMPs) for activities in or affecting wetlands (see Appendix 2 of these procedures). Every practicable effort must be made during this process to maintain the integrity of the affected natural wetland ecosystems, thereby preserving wetlands and their attendant organisms and physical/biological processes.

C. Compensating for Wetland Impacts

After **avoidance** and **minimization** have been applied to the maximum practicable extent, remaining new wetland degradation or loss must be offset through wetland **compensation**. For the NPS, compensation refers primarily to restoring natural wetland functions in degraded or former natural wetland habitats on NPS lands. It does not refer to creating wetlands where they did not exist previously, except as may be allowed under Chapter 4 of the NPS *Management Policies* (1988).

NPS wetland compensation is required as follows:

1. If the adverse impact on wetlands (direct **plus** indirect impacts as described in Section 5.3.B of these procedures) from the entire project **totals** less than 0.1 acres, then wetland compensation is strongly encouraged, but may be waived if the loss of wetland functions is considered to be minimal.
2. If the adverse impacts on wetlands from the entire project total 0.1 acres or more, then wetland compensation in the form of restoration of degraded or former wetland habitats is required.

For the purpose of wetland compensation, wetland restoration proposals must, **at a minimum**, provide one-for-one (1:1) **wetland function replacement** (i.e., focus on no net loss of wetland functions, not just wetland acreage). Section 5.3.C of these procedures discusses evaluation of wetland functions for this purpose. In the absence of definitive information needed to specifically address 1:1 wetland **function** replacement, a minimum of 1:1 wetland **acreage** replacement may be used as a surrogate. In the latter case, the focus should be on replacing wetlands of equivalent type and function, to the extent practicable.

Final compensation ratios may need to be greater than 1:1 in cases where: (1) the functional values of the site being impacted are determined to be high and the restored wetlands will be of lower functional value; (2) it will take a number of years for the restored site to become fully functional (e.g., reestablishment of forested wetlands); or (3) the likelihood of full restoration success is unclear. Conversely, the replacement ratio may simply be 1:1 for areas where the functional values associated with the area being impacted are determined to be low relative to the replacement site and the likelihood of fully successful, timely replacement of functions at the restoration site is high.

Consultation with the NPS Water Resources Division regarding compensation proposals and methods for assessing wetland functions is encouraged prior to preparing Statements of Findings as discussed in Sections 5.3.D and 5.3.E of these procedures.

Wetland compensation sites must be on lands managed by the NPS, with the following recommended priority order: 1) within the same wetland system as the impacted wetland; 2) within the same watershed; or 3) in another watershed within the same NPS unit. If no practicable restoration sites can be found within this location sequence, then sites in other NPS units within the Cluster or Region may be considered. Practicability factors such as those discussed in Section 5.3.A.2 should be considered in determining appropriate compensation sites. For example, lack of opportunities may make local restoration impossible in some cases, and the decision to expand the area of consideration for compensation sites is clear. However, there may be other cases where local restoration sites exist, but factors such as the opportunity to restore a rare or critical wetland type in another watershed may outweigh the value of restoring a more local wetland.

To help achieve the long-term "net-gain" of natural wetlands goal within the NPS, the costs of wetland compensation for projects that have adverse impacts on wetlands should be considered project costs. That is, **compensation costs should be factored into project budgets rather than being accomplished using NPS natural resources funding sources.**

5.3 The NEPA Process as Modified by Director's Order #77-1 and These Procedures

All NPS proposed actions that have the potential to have adverse impacts on wetlands must be treated in the appropriate NEPA document (Environmental Assessment or Environmental Impact Statement) according to NPS NEPA Director's Orders/procedures **as supplemented by these procedures.**

A. Identifying and Evaluating Alternatives for Proposed Actions

1. Alternatives presented in NEPA documents must include:
 - a. A "no action" alternative; and
 - b. Any **practicable alternatives** for carrying out desired actions such that adverse impacts on wetlands are avoided or minimized in accordance with these NPS wetland protection procedures (Section 5.2).
2. In determining an alternative's "practicability" with respect to E.O. 11990, the NPS must analyze and take into account the following and any other relevant factors:
 - a. Effects on natural wetland functions (e.g., fish and wildlife productivity and habitat, threatened and endangered species, vegetation impacts, water purification, streamflow maintenance, and other functions listed in Section 5.3.C of these procedures) Note: Significance or abundance of the wetland functions in that park unit should be considered, e.g., importance of desert springs and seeps for sustaining wildlife compared

to such features in parks with more abundant water resources.

- b. Effects on wetland social values (e.g., aesthetics, historic and cultural values, land use patterns, and other social/cultural values listed in Section 5.3.C)
 - c. Economic factors (e.g., costs of space, construction, services, relocation, transportation, and other factors listed in Section 5.3.C)
 - d. Existing technology (e.g., available construction methods, equipment, and materials)
 - e. Legal/regulatory constraints
3. The Environmental Assessment (EA) or draft Environmental Impact Statement (EIS) identifies wetlands that would be impacted by the various alternatives and describes their sizes, locations, types, characteristics, functions, and values. It also documents the consequences of implementing these alternatives, analyzing the full range of the direct or indirect adverse impacts of the various alternatives on wetlands. **The impact analyses must include both impacts associated with direct occupation of wetlands (e.g., habitat displacement due to placement of fill) and offsite impacts (e.g., wetland water tables lowered by ground water pumps or drainage systems, even if those facilities are constructed on uplands).** The level of detail needed in these analyses may vary according to the planning stage for the project or action being proposed. For example, standard National Wetlands Inventory maps could provide much of the information needed for park General Management Plans (GMPs) that are programmatic or strategic in nature, whereas supplemental mapping and/or onsite wetland investigations would be needed for GMPs or subsequent plans that identify specific project locations or detailed plans for facilities.

In cases where the alternatives are associated with existing facilities or activities, the NEPA documents should address effects that the alternatives would have in concert with these existing developments or activities. For example, the decision to expand an existing facility in a wetland rather than building the facility elsewhere could preclude opportunities to restore wetland functions at the existing site. The analysis should also include the potential for support of future wetland development that could result from the alternatives.

B. Determining if Alternatives are Located in or Could Otherwise Have Adverse Impacts on Wetlands

- 1. Determining if an Alternative is Located in or Near a Wetland.
 - a. NPS planners should initially consult park databases and files to determine if NWI maps are available for the locations of the alternatives. If not available locally, planners should consult with the responsible U.S. Fish and Wildlife Service field office or the NPS Water Resources Division to determine if NWI maps are available for the site. Status and availability of NWI maps can also be checked via the internet at the address: www.nwi.fws.gov.

NWI maps developed under current USFWS standards are useful tools for initial planning as discussed in Section 5.1 of these procedures. They should be considered as base inventories, but onsite verifications should be conducted as early as possible during the planning process to determine the level of accuracy and the possibility of omissions.

- b. Natural Resource Conservation Service (NRCS) soil surveys are good sources of supplemental general planning information for determining if wetlands may be present. NRCS state or local offices can provide available soil maps as well as lists of those soils that they have determined to be hydric (wetland) soils. If an area is mapped as hydric or as having hydric "inclusions," the area most likely contains wetlands. However, because of scale limitations, limited ground truthing, and the fact that these maps were not developed for purposes of wetland identification, there may be significant omissions. They should, therefore, be used primarily as supplemental information.
- c. Project planners can consult agencies such as the U.S. Army Corps of Engineers (e.g., regarding areas delineated for past 404 permits), the Environmental Protection Agency (e.g., 404 "Advanced Identification" mapping), the National Oceanic and Atmospheric Administration (e.g., National Institute of Marine Fisheries coastal wetland maps), the Natural Resources Conservation Service (e.g., wetland maps for agricultural lands), the state, the county, or comparable sources regarding availability of wetland maps.
- d. A number of parks have conducted enhanced wetland inventories utilizing relatively large-scale imagery and/or intensive ground truthing. These efforts may be enhancements of existing NWI maps or may be entirely independent products produced on larger scale base maps.
- e. When a project enters more detailed planning stages (or if adequate wetland maps are not available in the general planning process), the NPS must carry out onsite investigations performed by professionals qualified to identify wetlands based on the definition and classification system discussed in Section 4.1.A of these procedures. Again, it is critical that this investigation be conducted well in advance of the project design phase to assure that requirements to avoid and minimize wetland impacts can be met.

If non-wetland sites are successfully located for a project and there are no secondary or offsite impacts on wetlands as described in Section 5.3.B.2 below, then no further compliance with Director's Order #77-1 and these procedures is necessary. However, if the onsite investigation indicates that any part of a proposed activity would be located in wetlands (or the activity will otherwise impact wetlands as described in Section 5.3.B.2), and no practicable alternatives without wetland impacts are available, then such wetlands need to be delineated in the field, classified according to Cowardin et al. (1979), and mapped for purposes of compliance with Director's Order #77-1 (as implemented in these procedures) and Section 404 of the Clean Water Act (if applicable).

Coordination between the NPS and the Corps of Engineers regarding the need for a Clean Water Act Section 404 permit and any delineation requirements is strongly recommended prior to initiating this wetland mapping in order to ensure that such efforts meet the requirements outlined both in these procedures and for the 404 permit program. Wetland delineation methods tend to evolve fairly rapidly due to regulatory changes and advances in wetland science. Those identifying or delineating wetlands for purposes of compliance with Director's Order #77-1 and these procedures should contact the NPS Water Resources Division and the Corps of Engineers for guidance on appropriate wetland delineation methods and manuals.

2. Determining if an Alternative Could **Otherwise** Have Adverse Impacts on Wetlands

Even if the information gathered as described under Section 5.3.B.1 shows that an alternative is not located in a wetland, it must also be determined if the alternative holds the potential for indirect impacts on wetlands. An alternative has such impacts on offsite wetlands if it:

- a. Supports, encourages, or otherwise facilitates additional wetland development; or
- b. Has secondary or offsite effects (e.g., drainage, flooding, pollutant discharge, etc.) that extend into wetlands and have adverse impacts on them.

C. Evaluating Impacts on Wetland Functions and Values

1. **Examples** of wetland functions and values to be considered in this analysis include:

- a. Biotic Functions (e.g., fish and wildlife habitat, floral and faunal productivity, native species and habitat diversity, threatened and endangered species)
- b. Hydrologic Functions (e.g., flood attenuation, streamflow maintenance, ground water recharge and discharge, water supply, erosion and sediment control, water purification, detrital export to downstream systems)
- c. Cultural Values (e.g., aesthetics, education, historical values, archeological values, recreation, interpretation)
- d. Research/Scientific Values (e.g., "reference sites" for research on unimpacted ecosystems)
- e. Economic Values (e.g., flood protection, fisheries, tourism)

If an alternative is judged to have no direct or indirect adverse impacts on wetlands, this determination should be recorded in the environmental analysis for the alternative.

2. Methods for Evaluating Wetland Functions and Values

Several methods are available (or are being developed) to assess wetland functions and values for a site and to predict which will be degraded or lost (and, therefore, need to be compensated for) if a project is implemented. The NPS Water Resources Division can provide information on current methods.

D. Public Involvement/Review and Wetland Statements of Findings

1. Distribution of Public Notice Information and NEPA Documents

Notice regarding public meetings/hearings and NEPA document review opportunities for projects with the potential to have adverse impacts on wetlands must be targeted to reach individuals and groups affected by or with an interest in the proposal. Public involvement should provide an opportunity to assist in developing and evaluating alternatives, to review and indicate a preference among alternatives, to provide ideas on avoiding, minimizing, and compensating for wetland impacts, and to comment on proposed actions prior to implementation.

NEPA documents disclosing adverse impacts on wetlands must be circulated to the appropriate reviewing agencies as outlined in 520 DM 1.8C(4), including but not limited to:

- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- U.S. Natural Resources Conservation Service
- U.S. Geological Survey
- Federal Emergency Management Agency
- Bureau of Reclamation
- Appropriate state review agencies as determined by E.O. 12372, OMB Circular A-95 (Revised), and other requirements, including coastal or river basin commissions, state coastal zone management administrators, and state agencies with responsibility for maintaining water quality in accordance with the Clean Water Act.

2. Environmental Assessments for Proposed Actions with Adverse Impacts on Wetlands

Environmental Assessments that reveal adverse impacts on wetlands from proposed actions or their alternatives must be made available for broad public and agency review, consistent with the requirements established by NPS NEPA Director's Orders and implementation procedures. An EA that identifies a preferred alternative that will have adverse impacts on wetlands must be accompanied by a separately identifiable draft **"Statement of Findings" (SOF)** that explains why an alternative with such impacts was chosen and that meets the other requirements identified in Section 5.3.E of these procedures. EA/draft SOF distribution must include all affected parties, other interested parties or organizations, and the agencies listed in Section 5.3.D.1 of these procedures. The review period is the same as

that established in NPS NEPA procedures for EAs.

Following this review, the NPS must reevaluate the preferred alternative and its impacts, revise the EA and SOF as necessary, and issue a FONSI or a Notice of Intent to prepare an EIS consistent with NPS NEPA procedures. If the final preferred alternative still results in adverse impacts on wetlands and a FONSI is to be issued, a final **Statement of Findings** meeting the requirements identified in Section 5.3.E must be attached to the FONSI as a separately identifiable document. Public notice requirements for the FONSI/Statement of Findings are the same as those established by NPS NEPA procedures. This notice should indicate that a Statement of Findings documenting compliance with E.O. 11990, Director's Order #77-1, and these procedures is included with the FONSI.

If an EA is released without a preferred alternative, then preparation of a Statement of Findings may be delayed until a preferred alternative is identified in a revised EA. The revised EA and the SOF must then follow the public review and public notice procedures described above.

3. Environmental Impact Statements for Proposed Actions with Adverse Impacts on Wetlands

Draft Environmental Impact Statements revealing that proposed actions or their alternatives will have adverse impacts on wetlands must be made available for broad public and agency review under procedures established in NPS NEPA guidance. A draft EIS that identifies a preferred alternative that will have adverse impacts on wetlands must be accompanied by a separately identifiable draft **Statement of Findings** that explains why an alternative with such impacts was chosen and that meets the other requirements identified in Section 5.3.E of these procedures. Draft EIS/draft SOF distribution must include all affected parties, other interested parties and organizations, and the agencies listed in Section 5.3.D.1 of this document.

Following public and agency review of the draft EIS/draft SOF and any public meetings/hearings as provided for in NPS NEPA procedures, the NPS must reevaluate the alternatives and impacts and revise the documents as necessary. If the preferred alternative in the final EIS still results in adverse impacts on wetlands, a final **Statement of Findings** must be completed according to the requirements in Section 5.3.E of these procedures. The final Statement of Findings must be attached to the final EIS as a separately identifiable document (e.g., an appendix) when the EIS is filed with the EPA as required by NPS NEPA procedures. The Notice of Availability of the final EIS (published in the Federal Register) should note that a Statement of Findings documenting compliance with E.O. 11990, Director's Order #77-1, and these procedures is included.

If a draft EIS is released without a preferred alternative, then preparation of a Statement of Findings may be delayed until a preferred alternative is identified in a revised EIS. The revised EIS and the SOF must then follow the public review and public notice procedures described above.

E. Content and Signature Procedures for Wetland Statements of Findings

When a final NEPA document is prepared for an action that will result in adverse impacts on wetland areas, the FONSI or final EIS must be coupled with a separately identifiable **Statement of Findings** as described in Section 5.3.D. (Wetland SOF's may be combined with floodplain SOF's as explained in Section 3.3 of these procedures.) The wetland SOF, which in most cases need not exceed 3-5 pages of text, documents the rationale for identifying a preferred alternative that has adverse impacts on wetlands, explains why no alternatives with less wetland impacts were practicable, and otherwise documents compliance with the policies and requirements of Director's Order #77-1 and these procedures. The short length of the text implies that the bulk of the wetland descriptions and impact analyses for more complicated situations can occur in the body of the EA or EIS. The SOF can then summarize these analyses (referring back to specific portions of the EA or EIS as needed) and focus more on explaining the rationale for choosing an alternative that has adverse impacts on wetlands, explaining how that choice is consistent with Director's Order #77-1 and these procedures, and explaining plans for wetland compensation as described in Section 5.2.C and in 7. below.

The **Statement of Findings** for wetlands should contain:

1. A map at sufficiently large scale to show the locations, boundaries, and types of wetlands at the project site and the aspects of the preferred alternative that would have adverse impacts on them.
2. A detailed description of the affected wetlands (e.g., plant species and communities, hydrology, wetland classification, and so on) and their ecological, recreational, cultural, hydrologic, aesthetic, and other functions and values listed in Section 5.3.C of these procedures. Abundance of this wetland habitat type in the NPS unit/area/region should be included in this analysis.
3. Full disclosure of the adverse impacts on the wetland habitats, processes, functions, and values at the site (see examples to be considered in Section 5.3.C), and acreages affected, by wetland type.
4. A description of alternatives considered in addition to the preferred alternative.
5. The reasons why the preferred alternative must be located and designed such that it has adverse impacts on wetlands, and why no non-wetland alternatives or those with fewer wetland impacts were chosen. A discussion of the various factors and trade-offs considered in arriving at this decision should be included.
6. A description of how the preferred alternative was designed to minimize wetland impacts to the greatest extent practicable.
7. A description of compensation proposed, i.e., what wetland area will be restored to compensate for this loss or degradation (consistency with the NPS "no net loss of wetlands"

goal outlined in Director's Order #77-1). This portion of the SOF should include a large scale map of the compensation site, a description of wetland functions to be restored and the degree to which they replace functions lost at the project site, a description of the restoration process (e.g., hydrologic restoration, structure removal, plantings, etc.), the anticipated schedule for project completion, the anticipated time-frame for full wetland functioning, monitoring and maintenance requirements, and the funding source for the project consistent with Section 5.2.C of these procedures.

The Superintendent chooses the preferred alternative, oversees preparation of the Statement of Findings utilizing the wetland technical information developed during the planning process, and signs the "Recommended" line on the SOF cover sheet. The Chief of the NPS Water Resources Division or, alternatively, a certified Professional Wetland Scientist (Society of Wetland Scientists Certification Program, Inc.) from within the NPS with working knowledge of Director's Order #77-1 and these procedures, certifies: 1) the adequacy of wetland technical analyses; and 2) consistency with Servicewide implementation of E.O. 11990 and these procedures. This certification is accomplished by signing a "Certification of Technical Adequacy and Servicewide Consistency" line on the SOF cover sheet. Signature by the Regional Director indicates final approval of the SOF. (See Section 2.3 of these procedures regarding "Responsibilities.")

5.4 Development in Degraded Wetland Sites

Development activities proposed for wetland sites that have been modified or degraded as a result of human activities (but still meet the wetland definition) are considered "new actions" subject to the sequence identified in Section 5.2 of this document and the other policies and requirements of Director's Order #77-1 and these procedures. In other words, degraded wetlands should not be treated as preferred development sites simply because they are already in an impacted condition. In cases where there are no practicable alternatives to using such sites for development, actions must be included in the proposals to restore natural wetland processes and functions at the site, to the extent practicable.

5.5 Restoring Wetlands Degraded by Human Activities

Where natural wetland functions have been degraded or lost due to previous or ongoing human activities (e.g., drainage facilities, structures, agriculture), NPS General Management Plans, Resource Management Plans, Development Concept Plans, or similar planning documents must outline actions to reestablish environments in which wetland ecological processes can function as they did prior to disturbance, to the extent practicable. Highest priority should be placed on removing such damaging facilities, structures, or activities and restoring pre-existing wetland habitats and processes. Where removing such facilities or activities is not practicable, the NPS should seek ways to minimize and, to the extent possible, reverse the adverse impacts. (See Sections 5.6 and 5.9 regarding procedures for implementing this directive.)

5.6 Retaining or Removing Structures and Facilities in Existence Prior to May 28, 1980

General Management Plans (GMPs) or subsequent planning documents for NPS units should

include inventories of structures or facilities in existence prior to May 28, 1980 (original publication date of the NPS Floodplain Management and Wetland Protection Guidelines) that are located in or otherwise have the potential to have adverse impacts on wetlands. These documents should justify and record decisions on the retention or removal of these facilities (see Section 5.9 of these procedures regarding cultural resources). Decisions to retain such facilities should be supported by a discussion of why relocation to a site less damaging to wetlands is not practicable, but do not require Statements of Findings. Expansion or full reconstruction of such facilities require full compliance with Director's Order #77-1 and these procedures, although reconstruction involving no additional wetland impacts does not require the wetland compensation described in Section 5.2.C of these procedures.

5.7 Compliance With the Executive Order 11990 Directive to "Enhance the Natural and Beneficial Values of Wetlands"

Under most circumstances, NPS *Management Policies* (1988) do not support "enhancement" of wetland resources beyond natural levels. Therefore, for purposes of implementing E.O. 11990, the term "enhancement" refers to enhancing wetland **values**, where appropriate and practicable, by using wetlands for educational, recreational, scientific, and similar purposes **that do not disrupt natural ecological functions**. The NPS should seek to further enhance wetlands by improving, supporting, and coordinating wetland planning, research, inventory and monitoring efforts, resource management activities, and interpretation in such a manner that the widest range of natural wetland functions and values may be attained.

5.8 Wetland Mitigation Banks

In some cases, such as when long-term road construction programs in parks are expected to generate periodic wetland impacts in the future, it may be appropriate to establish wetland "mitigation banks" for both NPS and Clean Water Act Section 404 wetland compliance purposes. Mitigation banks are accounting systems in which "credits" for wetland restoration at a site or sites are "banked" and used at a later date as compensation for actions that impact wetlands. Establishing mitigation banks can have significant advantages: 1) compensation sites can be identified and restoration can be accomplished in advance, thereby smoothing project planning and compliance; and 2) compensation for a series of very small wetland losses, for example along some road corridors, can be achieved at larger restoration sites where planning, design, implementation, and monitoring can be consolidated. However, complications in establishing mitigation banks can arise, especially when several agencies must agree on acceptable mitigation ratios and other administrative details. The NPS Water Resources Division can provide information and technical assistance in this area.

5.9 Cultural Resources and Wetland Protection

The NPS preserves, manages, and interprets cultural resources including objects possessing historical, archeological, and architectural significance, some of which may occur in or adjacent to wetlands. Many of these cultural resources are included in, or eligible for inclusion in, the National Register of Historic Places. NPS *Management Policies* (1988), NPS cultural resources Director's

Orders and procedures, and specific park management plans give direction for the management of these resources. In addition, NPS actions affecting cultural resources included in, or eligible for inclusion in, the National Register are subject to the provisions of Section 106 of the National Historic Preservation Act of 1966 and the implementing regulations found in 36 CFR Part 800, "Protection of Historic Properties."

In some cases, wetland and cultural resource management objectives may conflict. For example, a park may wish to reconstruct a historic facility or restore a cultural landscape in a wetland area, or may wish to remove historic structures that interfere with wetland management objectives. Rather than dictating a result for wetland/cultural resource management conflicts, this document outlines procedures for documenting the decisionmaking process in accordance with other NPS management policies. For example, these procedures and policies do not say that the NPS must preserve each and every wetland or that the NPS must restore every wetland that has been impacted in the past at the expense of cultural resources. Rather, procedures are established whereby alternatives are developed in accordance with Section 5.2, practicability factors such as those listed in Section 5.3.A.2 are weighed, and decisions that have unavoidable, adverse impacts on wetlands are justified.

5.10 Leases, Easements, Rights-of-Way, or Disposal of Wetlands on NPS Lands

When NPS-managed wetlands are proposed for lease, easement, right-of-way, or disposal to non-federal public or private parties, the NPS must: 1) reference in the conveyance those uses that are restricted under identified federal, state, or local wetland regulations; b) attach other appropriate restrictions to the uses of properties by the grantee or purchaser and any successor, except where prohibited by law; or c) withhold such properties from disposal.

Appendix 1: Executive Order 11990. Protection of Wetlands (42 Fed. Reg. 26961)

By virtue of the authority vested in me by the Constitution and statutes of the United States of America, and as President of the United States of America, in furtherance of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*), in order to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative, it is hereby ordered as follows:

Section 1. (a) Each agency shall provide leadership and shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for (1) acquiring, managing, and disposing of Federal lands and facilities; and (2) providing Federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

(b) This Order does not apply to the issuance by Federal agencies of permits, licenses, or allocations to private parties for activities involving wetlands on non-Federal property.

Sec. 2. (a) In furtherance of Section 101(b)(3) of the National Environmental Policy Act of 1969 (42 U.S.C. 4331(b)(3)) to improve and coordinate Federal plans, functions, programs and resources to the end that the Nation may attain the widest range of beneficial uses of the environment without degradation and risk to health or safety, each agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. In making this finding the head of the agency may take into account economic, environmental and other pertinent factors.

(b) Each agency shall also provide opportunity for early public review of any plans or proposals for new construction in wetlands, in accordance with Section 2(b) of Executive Order No. 11514, as amended, including the development of procedures to accomplish this objective for Federal actions whose impact is not significant enough to require the preparation of an environmental impact statement under Section 102(2)(C) of the National Environmental Policy Act of 1969, as amended [42 U.S.C. 4332(2)(C)].

Sec. 3. Any requests for new authorizations or appropriations transmitted to the Office of Management and Budget shall indicate, if an action to be proposed will be located in wetlands, whether the proposed action is in accord with this Order.

Sec. 4. When Federally-owned wetlands or portions of wetlands are proposed for lease, easement, right-of-way or disposal to non-Federal public or private parties, the Federal agency shall (a) reference in the conveyance those uses that are restricted under identified Federal, State or local wetlands regulations; and (b) attach other appropriate restrictions to the uses of

properties by the grantee or purchaser and any successor, except where prohibited by law; or
(c) withhold such properties from disposal.

Sec. 5. In carrying out the activities described in Section 1 of this Order, each agency shall consider factors relevant to a proposal's effect on the survival and quality of the wetlands. Among these factors are:

(a) public health, safety, and welfare, including water supply, quality, recharge and discharge; pollution; flood and storm hazards; and sediment and erosion;

(b) maintenance of natural systems, including conservation and long term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources; and

(c) other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.

Sec. 6. As allowed by law, agencies shall issue or amend their existing procedures in order to comply with this Order. To the extent possible, existing processes, such as those of the Council on Environmental Quality, shall be utilized to fulfill the requirements of this Order. [Sec. 6 amended by EO 12608 of Sept. 9, 1987, 52 F.R. 34617, 3 CFR, 1987 Comp., p. 245]

Sec. 7. As used in this Order:

(a) The term "agency" shall have the same meaning as the term "Executive agency" in Section 105 of Title 5 of the United States Code and shall include the military departments; the directives contained in this Order, however, are meant to apply only to those agencies which perform the activities described in Section 1 which are located in or affecting wetlands.

(b) The term "new construction" shall include draining, dredging, channelizing, filling, diking, impounding, and related activities and any structures or facilities begun or authorized after the effective date of this Order.

(c) The term "wetlands" means those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

Sec. 8. This Order does not apply to projects presently under construction or to projects for which all of the funds have been appropriated through Fiscal Year 1977, or to projects and programs for which a draft or final environmental impact statement will be filed prior to October 1, 1977. The provisions of Section 2 of this Order shall be implemented by each agency not later than October 1, 1977.

Sec. 9. Nothing in this Order shall apply to assistance provided for emergency work, essential to save lives and protect property and public health and safety, performed pursuant to Sections 305 and 306 of the Disaster Relief Act of 1974 (88 Stat. 148, 42 U.S.C. 5145 and 5146).

Sec. 10. To the extent the provisions of Sections 2 and 5 of this Order are applicable to projects covered by Section 104(h) of the Housing and Community Development Act of 1974, as amended (88 Stat. 640, 42 U.S.C. 5304(h)), the responsibilities under those provisions may be assumed by the appropriate applicant, if the applicant has also assumed, with respect to such projects, all of the responsibilities for environmental review, decisionmaking, and action pursuant to the National Environmental Policy Act of 1969, as amended [42 U.S.C. 4321 *et seq.*].

Jimmy Carter

Appendix 2: "Best Management Practices (BMPs)/Conditions" to be Applied When Proposed Actions Have the Potential to Have Adverse Impacts on Wetlands

The following serve as BMPs for NPS actions that may have adverse impacts on wetlands. Additional BMPs may be appropriate depending on local conditions or special circumstances. These also serve as "conditions" that must be met for the actions listed in Section 4.2.A of these procedures to qualify as "excepted."

1. **Effects on hydrology:** Action must have only negligible effects on site hydrology, including flow, circulation, velocities, hydroperiods, water level fluctuations, and so on.
2. **Water quality protection and certification:** Action is conducted so as to avoid degrading water quality to the maximum extent practicable. Measures must be employed to prevent or control spills of fuels, lubricants, or other contaminants from entering the waterway or wetland. Action is consistent with state water quality standards and Clean Water Act Section 401 certification requirements (check with appropriate state agency).
3. **Erosion and siltation controls:** Appropriate erosion and siltation controls must be maintained during construction, and all exposed soil or fill material must be permanently stabilized at the earliest practicable date.
4. **Effects on fauna:** Action must have only negligible effects on normal movement, migration, reproduction, or health of aquatic or terrestrial fauna, including at low flow conditions.
5. **Proper maintenance:** Structure or fill must be properly maintained so as to avoid adverse impacts on aquatic environments or public safety.
6. **Heavy equipment use:** Heavy equipment use in wetlands must be avoided if at all possible. Heavy equipment used in wetlands must be placed on mats, or other measures must be taken to minimize soil and plant root disturbance and to preserve preconstruction elevations.
7. **Stockpiling material:** Whenever possible, excavated material must be placed on an upland site. However, when this is not feasible, temporary stockpiling of excavated material in wetlands must be placed on filter cloth, mats, or some other semipermeable surface, or comparable measures must be taken to ensure that underlying wetland habitat is protected. The material must be stabilized with straw bales, filter cloth, or other appropriate means to prevent reentry into the waterway or wetland.
8. **Removal of stockpiles and other temporary disturbances during construction:** Temporary stockpiles in wetlands must be removed in their entirety as soon as practicable. Wetland areas temporarily disturbed by stockpiling or other activities during construction must be returned to their pre-existing elevations, and soil, hydrology, and native vegetation

communities must be restored as soon as practicable.

9. **Topsoil storage and reuse:** Revegetation of disturbed soil areas should be facilitated by salvaging and storing existing topsoil and reusing it in restoration efforts in accordance with NPS policies and guidance. Topsoil storage must be for as short a time as possible to prevent loss of seed and root viability, loss of organic matter, and degradation of the soil microbial community.
10. **Native plants:** Where plantings or seeding are required, native plant material must be obtained and used in accordance with NPS policies and guidance. Management techniques must be implemented to foster rapid development of target native plant communities and to eliminate invasion by exotic or other undesirable species.
11. **Boardwalk elevations:** Minimizing shade impacts, to the extent practicable, should be a consideration in designing boardwalks and similar structures. (Placing a boardwalk at an elevation above the vegetation surface at least equal to the width of the boardwalk is one way to minimize shading.)
12. **Wild and Scenic Rivers:** Action cannot be "excepted" (see Section 4.2 of these procedures) if proposed in a component of the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in official study status.
13. **Coastal zone management:** Action must be consistent, to the maximum extent practicable, with state coastal zone management programs.
14. **Endangered species:** Action must not jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, including degradation of critical habitat (see NPS *Management Policies* (1988) and guidance on threatened and endangered species).
15. **Historic properties:** Action must not have adverse effects on historic properties listed or eligible for listing in the National Register of Historic Places.